TRANSPORTATION-INFORMATION INEQUALITIES FOR CONTINUUM GIBBS MEASURES

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Abstract: The objective of this paper is to establish sharp concentration inequalities for the Glauber dynamics related with continuum or discrete Gibbs measures. At first we establish the optimal transportation-information W_1I-inequality for the $M/M/\infty$-queue associated with the Poisson measure, which improves several previous known results. Under the Dobrushin's uniqueness condition, we obtain some sharp W_1I-inequalities for the continuum Gibbs measure and for the discrete spin system. Our method is a combination of Lipschitzian spectral gap, the Lyapunov test function approach, and the tensorization technique.